

REMARKS

Applicants have considered the nonfinal Office Action of December 12, 2008. Claims 2-5, 9-14, and 18-20 are amended. Claim 16 is cancelled. Claims 1-15 and 17-20 are pending. Applicants request reconsideration.

The Examiner objected to the specification as including descriptions of Figures 5 and 6, but missing those figures in the submitted drawings. Applicants have amended various paragraphs of the specification to remove any discussion of Figures 5 and 6. This remedies the Examiner's objection.

Claims 2-5, 9, 10, 12, 13, 19, and 20 were rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite. Applicants traverse the rejection.

According to the Examiner, these claims recited broad and narrow limitations. Applicants have amended these claims to remove the narrower ranges. Claim 14, which has essentially the same text as claim 4, has also been amended.

Applicants request withdrawal of the indefiniteness rejection.

Claims 1-20 were rejected under 35 U.S.C. 102(b)/103(a) as allegedly being anticipated by or obvious over Fujimaki (U.S. Patent No. 4,145,455). Applicants traverse the rejection.

In responding to the Examiner's rejection, please note that this application includes two independent method claims (1 and 8) and two independent product claims (11 and 18).

The method claims are not anticipated by Fujimaki. Fujimaki does not disclose modifying a protein by cleaving a disulfide bond originally present in the protein. The Examiner referred to the cysteine-enriched plastein of Fujimaki as corresponding to the modified protein of the claims. Fujimaki discloses that the cysteine-enriched plastein (referred to as CySH-P) is produced by hydrolyzing a protein with an endopeptidase, then reacting the hydrolyzate with a protease having an esterase activity in the presence of an activated cysteine. See column 2, lines 44-54. The cysteine is taken up in the peptide chain, and the SH group can then form disulfide bonds (-S-S-) to form a

network structure. See column 3, line 39 to column 4, line 26. Here, please note that the endopeptidase and protease do not cleave disulfide bonds; rather, they cleave the peptide bonds between amino acids in a protein. The disulfide bonds which can be formed by the added cysteine are not originally present. Thus, the requirement that the modified protein "is modified by cleaving at least one disulfide bond originally present in said protein" is not met. Because this requirement is part of the method, it cannot be ignored. Thus, the method claims are not anticipated.

The method claims are not obvious over Fujimaki. There appears to be no discussion of cleaving and then reforming disulfide bonds in Fujimaki, either directly or indirectly. Again, please note that the added cysteine itself has only one SH group and thus does not have disulfide bonds which can be cleaved. Thus, the method claims are not obvious.

The product claims are not anticipated by Fujimaki. Independent claims 11 and 18 have been amended to require that the modified protein be a whey protein or soy protein. The structure of this modified protein differs from the CySH-P of Fujimaki because the original whey protein / soy protein is an intact protein, compared to the mixture of hydrolyzed protein that is produced by Fujimaki. Soy protein is an example of a protein hydrolyzed by the endopeptidase of Fujimaki. See column 3, lines 4-9. The modified protein of the present claims will have at least a larger molecular weight than the CySH-P of Fujimaki. Thus, the product claims are not anticipated.

The product claims are not obvious over Fujimaki. There appears to be no disclosure or suggestion of cleaving the disulfide bonds in the original protein. Rather, Fujimaki is directed towards the addition of cysteine to the original protein for the formation of disulfide bonds. Thus, the product claims are not obvious.

Applicants request withdrawal of the 102(b)/103(a) rejections.

CONCLUSION

For the reasons detailed above, it is respectfully submitted all claims remaining in the application (Claims 1-15 and 17-20) are now in condition for allowance.

Respectfully submitted,

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Date

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